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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/642,203

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Nobuyuki Enomoto

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EXAMINER

LEE, BETTY E

ART UNIT

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2619

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/642,203	Applicant(s) ENOMOTO ET AL.	
	Examiner BETTY LEE	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-15,17,18,20-31,33,35-46,48,50-61 and 63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) 5,6,8,11,21,22,24,27,36,39,42,51,54,57 and 63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/04/08</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims rejected are 1,2,4,7,9,10,12-15,17,18,20,23,25,26,28-31,33,35,37,38,40,41,43-46,48,50,52,53,55,56 and 58-61.

DETAILED ACTION

Claim Objections

1. Claims **1, 2, 4-15, 17, 18, 20-31, 33, 35-46, 48, 50-61, and 63** are objected to because of the following informalities:

2. Claim 1 lines 11-12 recites "said partial network". It is believed that "said partial network" refers to "a self-configuring partial network", so it is suggested that "said partial network" be changed to --- said self-configuring partial network ---.

Claims 4 and 12 depend from canceled claim 3. These claims have been examined as if they depend from claim 1.

Claims 20, 21, 25, and 28 depend from canceled claim 19. These claims have been examined as if they depend from claim 17.

Claims 35-37, 40, and 47 depend from canceled claim 34. These claims have been examined as if they depend from claim 33.

Claims 50 and 52 depend from canceled claim 49. These claims have been examined as if they depend from claim 48.

Claim 63 depends from canceled claim 16. This claim has been examined as if it depends from claim 1.

The remaining claims are objected to as being dependent on objected base claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims **1, 17, 33, and 48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (US 2003/0165119) in view of the Japanese Office Action

dated December 19, 2007 referencing Yasuaki (JP 2002-353998) and Fukuda et al. (US 5,761,435).

Regarding claim 1, 17, 33, and 48, Hsu teaches two different networks are connected by nodes, the node belonging to self-configuring partial networks configures and manages a ring (see Fig. 15). Hsu does teach that the invention may also be used with spanning tree protocol networks (see paragraph 56 lines 3-8) and a port blocking unit which closes or opens a port (see paragraph 59 lines 14-18). Hsu teaches all the subject matter of the claimed invention with the exception of two different networks are connected by a self-configuring partial network consisting of at least four nodes, the node configuring and managing a spanning tree network, determining an output destination port from a destination MAC address and tree managers, and a tree controller and BPDU transmitter/receiver.

However, Yasuaki teaches two different networks (see Fig. 9 items 42 and 43) are mutually connected by a partial network (41) comprising at least four nodes (bridges) accommodating no terminal, and managing the network, where the nodes belonging to the partial network create a spanning tree for each network adjacent to its own partial network according to the spanning tree protocol (see Fig. 9 Items 20 and 30). Thus, it would have been obvious to one of ordinary skill in the art to create a dedicated ring as taught by Yasuaki to manage the two different networks of Hsu to decrease the time required to restore service after an interruption. Hsu in view of Yasuaki teaches all the subject matter of the claimed invention with the exception of

determining an output destination port from a destination MAC address and tree managers, and a tree controller and BPDU transmitter/receiver

However, Fukuda teaches the node configuring and managing a spanning tree for every other network adjacent to the partial network, according to a spanning tree protocol (see Fig. 1 Boxes 62 and 64); a plurality of transfer units which determines an output destination port in every partial network, based on a destination MAC address of an input frame (see Fig. 1 Boxes 53 and 63), and a plurality of tree managers which configures a spanning tree for every said partial network and said network, according to the spanning tree protocol and transfers a frame (see Fig. Fig. 1 Boxes 52 and 62); and a tree controller which determines a state of a port according to the spanning tree protocol (see Fig. 1 Boxes 54 and 64), and a BPDU transmitter/receiver which transmits and receives a control signal of the spanning tree protocol (see Fig. 2 Box 120). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Fukuda in the system of Hsu in view of Yasuaki. The motivation for doing so is to make the system more flexible.

1. Claims **4, 12-14, 20, 28-30, 35, 37, 38, 43-45, 50, 52, 53, and 58-62** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (US 2003/0165119) in view of the Japanese Office Action dated December 19, 2007 referencing Yasuaki (JP 2002-353998) and Fukuda et al. (US 5,761,435) as applied to claims 1, 17, 33, and 48 above, and further in view of Seaman (US 6,882,630).

Regarding claims 4, 20, and 50, Hsu teaches all the subject matter of the invention with the exception of a tree manager and a virtual port. However, Fukuda teaches a tree manager which manages the spanning tree of the self-partial network (see Fig. 1 Boxes 52 and 62). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Fukuda in the system of Hsu. The motivation for doing so is to make the system more flexible. Hsu in view of Fukuda teaches all the subject matter of the claimed invention with the exception of a virtual port.

However, Seaman teaches a virtual port which packs into one the output ports (see Fig. 1 Box 109) to the self-partial network which connects said transfer unit (see Fig. 1 Box 113). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Seaman in the system of Hsu in view of Fukuda. The motivation for doing so is to make the system more efficient by having one entity handle the multiple ports.

Regarding claims 12, 28, 43, and 58, Hsu teaches all the subject matter of the claimed invention with the exception of a failure detector. However, Seaman teaches a failure detector which detects a failure through transmission and receipt of keep alive frames (see col. 10 lines 39-47). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Seaman in the system of Hsu. The motivation for doing so is to make the network more robust.

Regarding claims 13, 29, 44, and 59, Hsu teaches all the subject matter with the exception of a failure detector. However, Seaman teaches a signal separator which separates the keep alive frames from the other frame, and a keep alive signal

transmitter/receiver which transmits and receives the keep alive frames (see col. 10 lines 39-47). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Seaman in the system of Hsu. The motivation for doing so is to make the network more robust.

Regarding claims 14, 30, 35, 45, and 60, Hsu teaches all the subject matter of the claimed invention with the exception of a frame blocking unit. However, Seaman teaches a frame block unit which cuts off the port at a time of double failure (see col. 10 lines 39-47). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Seaman in the system of Hsu. The motivation for doing so is to make the network more robust.

Regarding claims 37 and 52, Hsu teaches all the subject matter of the claimed invention with the exception of a TTL manager. However, Seaman teaches a TTL checker step of discarding the frame with reference to a TTL value, and a TTL controller step of performing addition and subtraction of the TTL value (see col. 9 lines 55-63).

Regarding claims 38 and 53, Hsu teaches all the subject matter of the claimed invention with the exception of transfer units, tree managers, BPDU identifying unit. However, Fukuda teaches a plurality of transfer units which determines an output destination port in every said partial network, based on a destination MAC address of an input frame (see Fig. 1 Boxes 50 and 60), a plurality of tree managers which configures a spanning tree for every said partial network, according to the spanning tree protocol and transfers a frame (see Fig. 1 Boxes 52 and 62), and a BPDU identifying unit which determines a tree manager of an output destination of an input BPDU frame according

to an identifier (see Fig. 3 Boxes 220 and 260). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Fukuda in the system of Hsu. The motivation for doing so is to make the system more flexible.

Regarding claim 61, Hsu teaches a tag operation unit which inserts and deletes an identification tag (see paragraph 62). Hsu teaches all the subject matter of the claimed invention with the exception of transfer units and tree manager. However, Fukuda teaches a plurality of transfer units which determines an output destination port in every said partial network, based on an identification tag of the input frame (see Fig. 1 Boxes 50 and 60), and a multiphase tree manager which configures a spanning tree for every said partial network, according to the spanning tree protocol in every said identification tag of the input frame (see Fig.1 Boxes 52 and 62). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Fukuda in the system of HSU. The motivation for doing so is to make the system more flexible.

Regarding claim 62, Hsu teaches a port blocking unit which closes or opens a port (see paragraph 59 lines 14-18). Hsu teaches all the subject matter of the claimed invention with the exception of a tree controller and BPDU transmitter/receiver. However, Fukuda teaches a tree controller which determines a state of a port according to the spanning tree protocol (see Fig. 1 Boxes 54 and 64), and a BPDU transmitter/receiver which transmits and receives a control signal of the spanning tree protocol (see Fig. 2 Box 120). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Fukuda in the system of Hsu. The motivation for doing so is to make the system more flexible.

2. Claims **9 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (US 2003/0165119) in view of the Japanese Office Action dated December 19, 2007 referencing Yasuaki (JP 2002-353998), Fukuda et al. (US 5,761,435) and Seaman (US 6,882,630) as applied to claim 4 above, and further in view of Ambe (US 7,061,876).

Regarding claim 9, Hsu teaches all the subject matter of the claimed invention with the exception of an address learning unit. However, Ambe teaches an address learning unit which creates a table, based on an input port and a source MAC address of the received frame (see Fig. 3 Boxes 2 and 3); and a table which determines an output destination port by using the destination MAC address as a key (see Fig. 6). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Ambe in the system of Hsu. The motivation for doing so is to make the system more efficient by building a routing table.

Regarding claim 10, Hsu teaches all the subject matter with the exception of a table containing an output port field and MAC address field. However, Ambe teaches a table comprising a destination MAC address field which describes the destination MAC address, and an output port field which describes an output destination port corresponding to the destination MAC address (see Fig. 6). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Ambe in the system of Hsu. The motivation for doing so is to make the system more efficient by building a routing table.

3. Claims **25, 26, 40, 41, 55, and 56** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (US 2003/0165119) in view of the Japanese Office Action dated December 19, 2007 referencing Yasuaki (JP 2002-353998) and Fukuda et al. (US 5,761,435) as applied to claims 17, 33, and 48 above, and further in view of Ambe (US 7,061,876).

Regarding claim 25, 40, and 55, Hsu teaches all the subject matter of the claimed invention with the exception of an address learning unit. However, Ambe teaches an address learning unit which creates a table, based on an input port and a source MAC address of the received frame (see Fig. 3 Boxes 2 and 3); and a table which determines an output destination port by using the destination MAC address as a key (see Fig. 6). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Ambe in the system of Hsu. The motivation for doing so is to make the system more efficient by building a routing table.

Regarding claim 26, 41, and 56, Hsu teaches all the subject matter with the exception of a table containing an output port field and MAC address field. However, Ambe teaches a table comprising a destination MAC address field which describes the destination MAC address, and an output port field which describes an output destination port corresponding to the destination MAC address (see Fig. 6). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Ambe in the system of Hsu. The motivation for doing so is to make the system more efficient by building a routing table.

Allowable Subject Matter

4. Claims 5, 6, 8, 11, 21, 22, 24, 27, 36, 39, 42, 51, 54, 57, and 63 would be allowable if rewritten to overcome the objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments, see pages 21 and 22, filed December 27, 2007, with respect to the rejection(s) of claim(s) 1-3, 7, 15-19, 23, 31-34, and 46-49 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art prompted by the IDS.

Applicant submits that Hsu in view of Fukada does not teach or suggest "wherein two different networks are connected by a self-configuring partial network consisting of at least four nodes accommodating no terminal, and a node belonging to said self-configuring partial network configures and manages a spanning tree for every other network adjacent to the self-configuring partial network".

However, Yasuaki teaches two different networks (see Fig. 9 items 42 and 43) are mutually connected by a partial network (41) comprising at least four nodes (bridges) accommodating no terminal, and managing the network, where the nodes belonging to the partial network create a spanning tree for each network adjacent to its

own partial network according to the spanning tree protocol (see Fig. 9 Items 20 and 30).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Benedetto et al. (US 2006/0092862) and Chen et al. (US 6,788,650) are cited to show systems which are considered pertinent to the claimed invention.

7. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on February 04, 2008 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BETTY LEE whose telephone number is (571)270-1412. The examiner can normally be reached on Monday-Thursday 9-5 EST and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Betty Lee
Examiner, Art Unit 2619

/Hassan Kizou/

Supervisory Patent Examiner, Art Unit 2619